Small Signal Switching Diodes, High Voltage

FEATURES

- Silicon epitaxial planar diode
- AEC-Q101 qualified
- Material categorization:
  for definitions of compliance please see www.vishay.com/doc?99912

Pb
e2
RoHS COMPLIANT

APPLICATIONS

- General purposes

MECHANICAL DATA

Case: MiniMELF SOD-80
Weight: approx. 31 mg
Cathode band color: black
Packaging codes/options:
GS18/10K per 13" reel (8 mm tape), 10K/box
GS08/2.5K per 7" reel (8 mm tape), 12.5K/box

PARTS TABLE

PART	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	INTERNAL CONSTRUCTION	REMARKS
BAV100	V_{RRM} = 60 V	BAV100-GS18 or BAV100-GS08	-	Single diode	Tape and reel
BAV101	V_{RRM} = 120 V	BAV101-GS18 or BAV101-GS08	-	Single diode	Tape and reel
BAV102	V_{RRM} = 200 V	BAV102-GS18 or BAV102-GS08	-	Single diode	Tape and reel
BAV103	V_{RRM} = 250 V	BAV103-GS18 or BAV103-GS08	-	Single diode	Tape and reel

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		BAV100	V_{RRM}	60	V
		BAV101	V_{RRM}	120	V
		BAV102	V_{RRM}	200	V
		BAV103	V_{RRM}	250	V
Reverse voltage		BAV100	V_R	50	V
		BAV101	V_R	100	V
		BAV102	V_R	150	V
		BAV103	V_R	200	V
Peak forward surge current	t_p = 1 s		I_{FSM}	1	A
Repetitive peak forward current			I_{FRM}	625	mA
Forward continuous current			I_F	250	mA
Power dissipation			P_{tot}	500	mW

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THERMAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)				
PARAMETER	**TEST CONDITION**	**SYMBOL**	**VALUE**	**UNIT**
Thermal resistance junction to lead		R_{thJL}	350	K/W
Thermal resistance junction to ambient air	On PC board 50 mm x 50 mm x 1.6 mm	R_{thJA}	500	K/W
Junction temperature		T_j	175	°C
Storage temperature range		T_{stg}	- 65 to + 175	°C

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)							
PARAMETER	**TEST CONDITION**	**PART**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Forward voltage	I_F = 100 mA		V_F			1	V
Reverse current	V_R = 50 V	BAV100	I_R			100	nA
	V_R = 100 V	BAV101	I_R			100	nA
	V_R = 150 V	BAV102	I_R			100	nA
	V_R = 200 V	BAV103	I_R			100	nA
	T_j = 100 °C, V_R = 50 V	BAV100	I_R			15	µA
	T_j = 100 °C, V_R = 100 V	BAV101	I_R			15	µA
	T_j = 100 °C, V_R = 150 V	BAV102	I_R			15	µA
	T_j = 100 °C, V_R = 200 V	BAV103	I_R			15	µA
Breakdown voltage	I_R = 100 µA, t_p/T = 0.01, t_p = 0.3 ms	BAV100	$V_{(BR)}$	60			V
	I_R = 100 µA, t_p/T = 0.01, t_p = 0.3 ms	BAV101	$V_{(BR)}$	120			V
	I_R = 100 µA, t_p/T = 0.01, t_p = 0.3 ms	BAV102	$V_{(BR)}$	200			V
		BAV103	$V_{(BR)}$	250			V
Diode capacitance	V_R = 0 V, f = 1 MHz, V_{HF} = 50 mV		C_D		1.5		pF
Differential forward current	I_F = 10 mA		r_f		5		Ω
Reverse recovery time	$I_F = I_R$ = 30 mA, i_R = 3 mA, R_L = 100 Ω		t_{rr}			50	ns

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

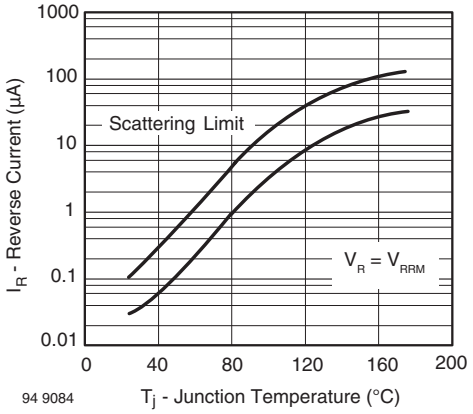

Fig. 1 - Reverse Current vs. Junction Temperature

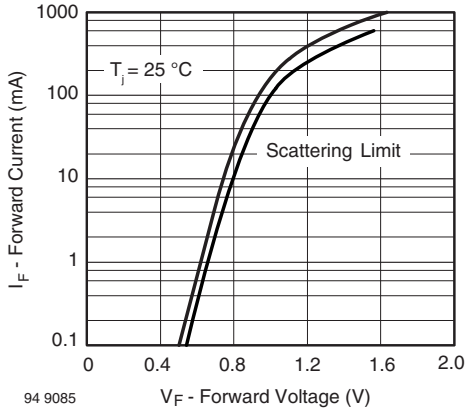

Fig. 2 - Forward Current vs. Forward Voltage

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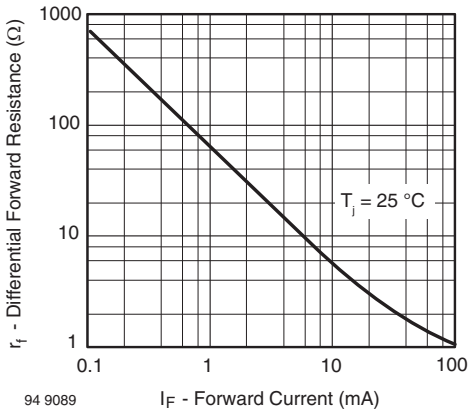
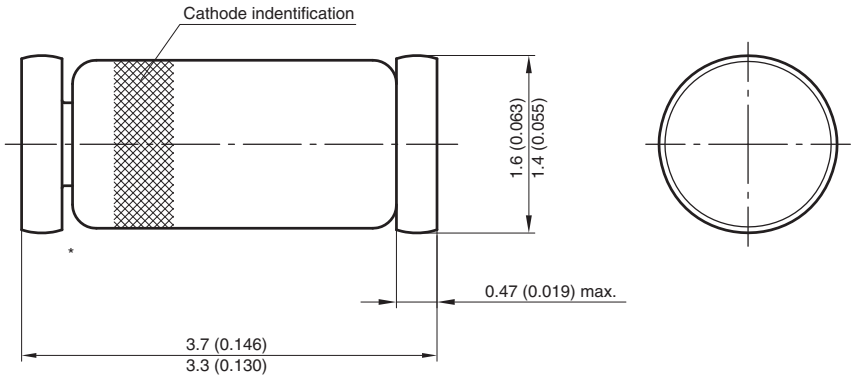
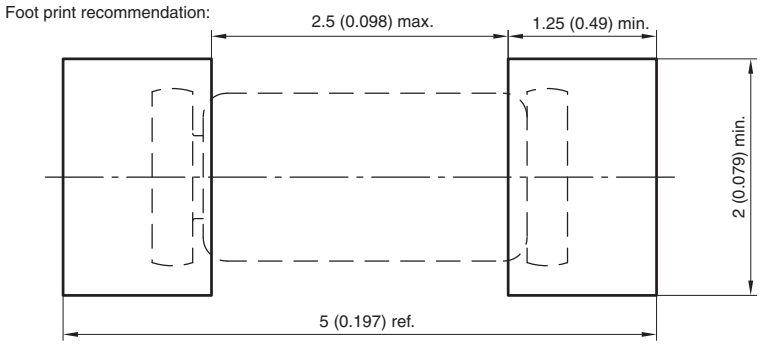


Fig. 3 - Differential Forward Resistance vs. Forward Current

PACKAGE DIMENSIONS in millimeters (inches): **MiniMELF SOD-80**



* The gap between plug and glass can be either on cathode or anode side



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